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**Additional tabular data related
to the paper:**

Vertebral and other meristic
characteristics of Greenland halibut,
Reinhardtius hippoglossoides, from the
Northwest Atlantic (Templeman, 1970)

by Wilfred Templeman

FISHERIES RESEARCH BOARD OF CANADA

TECHNICAL REPORT NO. 192

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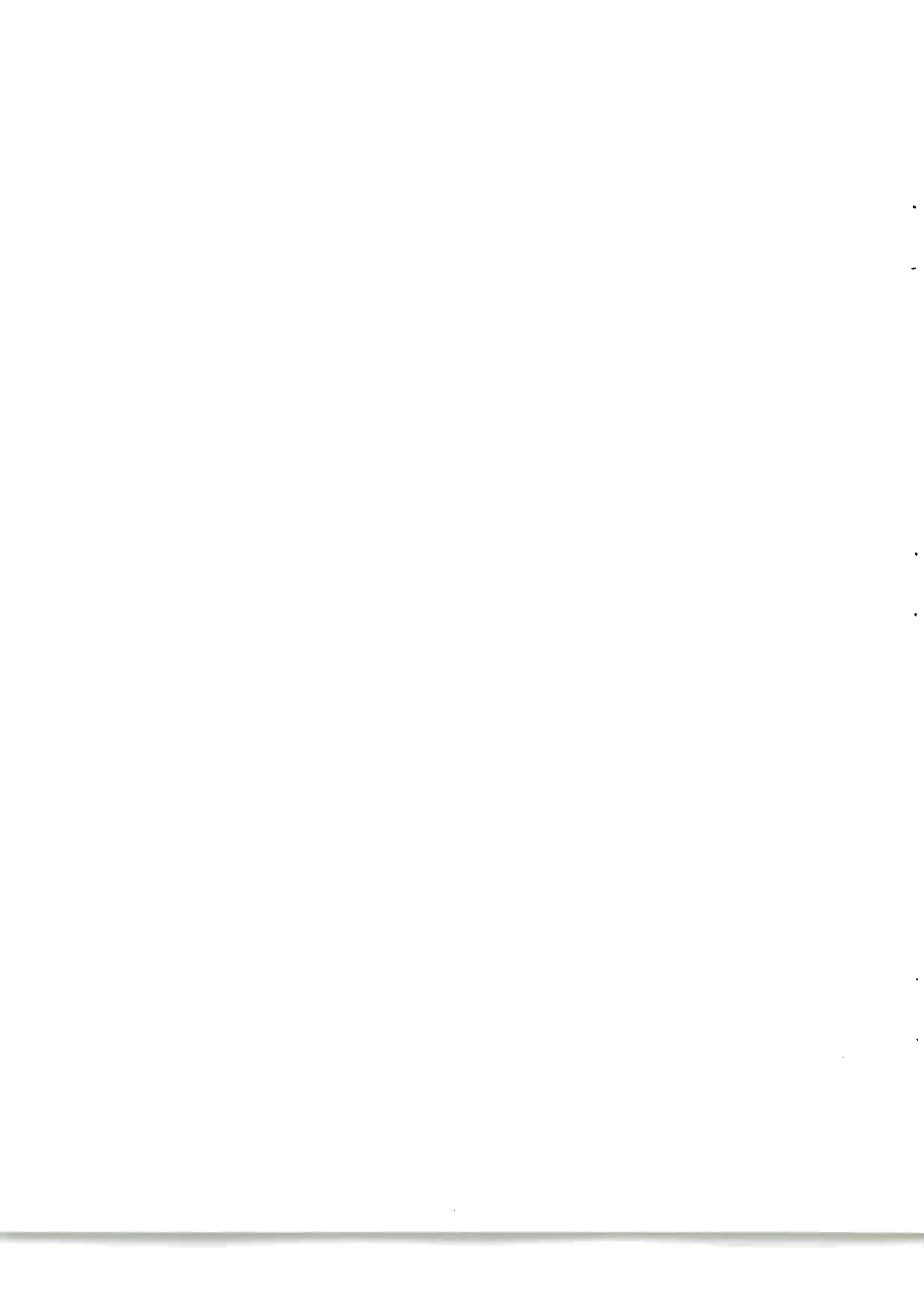
ADDITIONAL TABULAR DATA RELATED TO THE PAPER:
VERTEBRAL AND OTHER MERISTIC CHARACTERISTICS OF
GREENLAND HALIBUT, *REINHARDTIUS HIPPOGLOSSOIDES*,
FROM THE NORTHWEST ATLANTIC (TEMPLEMAN, 1970)

by

Wilfred Templeman

This is the twenty-first FRB Technical Report from the
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INTRODUCTION

This report contains tabular data on meristic characters of the Greenland halibut, *Reinhardtius hippoglossoides* (Walbaum).

These data were used in the preparation of the paper on vertebral and other meristic characters of the Greenland halibut of the northwest Atlantic (Templeman, 1970) but for reasons of economy much of the tabular detail was not included in the paper.

Table 1. Vertebral numbers of Greenland halibut from the northwest Atlantic, 1950-68.

(For positions, depths and temperatures, see Templeman, 1970, table 1.)

Locality	Year	Vertebral frequencies						Total fish	Vertebral means	Standard error	Sex
		59	60	61	62	63	64				
1. West Greenland shelf	1965	...	7	82	93	16	...	198	61.596	0.049	Male
		...	8	94	101	15	1	219	61.575	0.047	Female
		...	...	1	...	...	...	1	...	...	Unsexed
		...	15	177	194	31	1	418	61.584	0.034	Total
2. Baffin Island shelf and Ungava Bay	1959	...	16	213	219	41	1	490	61.588	0.032	Male
		...	7	123	147	18	1	296	61.605	0.038	Female
		...	23	336	366	59	2	786	61.594	0.024	Total
3. Labrador shelf	1959,	...	4	77	74	11	...	166	61.554	0.051	Male
	1960	...	10	74	77	13	...	174	61.534	0.054	Female
	...	14	151	151	24	...	340	61.544	0.037	Total	

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4.	NE Nfld. shelf	1950, 1951	...	1	14	19	34	61.529	0.097	Male
			...	3	20	14	3	...	40	61.425	0.118	Female
			...	10	105	94	18	...	227	61.529	0.047	Unsexed
			...	14	139	127	21	...	301	61.515	0.040	Total
5.	" "	1963	...	1	41	50	6	...	98	61.622	0.062	Total
4 & 5.	" "	1950-63	...	15	180	177	27	...	399	61.541	0.034	Total
6.	Grand Bank to SE Nfld. coast	1950, 1953	1	...	25	22	4	...	52	61.538	0.101	Male
			...	...	25	26	6	1	58	61.707	0.095	Female
			1	...	50	48	10	1	110	61.627	0.069	Total
7.	Grand Bank	1961	...	2	46	51	7	...	106	61.594	0.063	Male
			1	3	60	71	12	...	147	61.612	0.057	Female
			1	5	106	122	19	...	253	61.605	0.042	Total

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(cont'd.)

Table 1 (cont'd.)

	Locality	Year	Vertebral frequencies						Total fish	Vertebral means	Standard error	Sex
			59	60	61	62	63	64				
6 & 7.	Grand Bank to SE Nfld. coast	1950-61	2	5	156	170	29	1	363	61.612	0.036	Total
8.	Southwest	1965-66	...	...	22	22	5	...	49	61.653	0.095	Male
	Grand Bank		...	5	42	37	4	...	88	61.455	0.072	Female
			...	...	1	...	...	...	1	...	...	Unsexed
			...	5	65	59	9	...	138	61.522	0.057	Total
9.	Flemish Cap and E and SW Grand Bank	1968	...	2	16	14	1	...	33	61.424	0.115	All females
10.	Gulf of St.	1965	...	...	16	39	7	...	62	61.855	0.076	Male
	Lawrence		...	2	24	42	14	1	83	61.855	0.084	Female
			...	...	1	1	...	...	2	...	...	Unsexed
			...	2	41	82	21	1	147	61.850	0.057	Total

11.	Baffin Island to	1950-66	1	23	397	407	68	1	897	61.581	0.023	Male	
	SW Grand Bank		1	28	344	372	56	2	803	61.573	0.024	Female	
	(Samples no. 2-8)		...	11	147	144	24	...	326	61.555	0.038	Unsexed	
			2	62	888	923	148	3	2026	61.574	0.015	Total	
12.	W Greenland and	1950-66	1	30	479	500	84	1	1095	61.584	0.021	Male	
	Baffin Island to		1	36	438	473	71	3	1022	61.573	0.022	Female	
	SW Grand Bank		...	11	148	144	24	...	327	61.554	0.038	Unsexed	
	(Samples no. 1-8)		2	77	1065	1117	179	4	2444	61.575	0.014	Total	

Table 2. Relation of precaudal and caudal vertebral numbers of Greenland halibut from the Gulf of St. Lawrence and West Greenland, 1965.

Caudal vertebrae	West Greenland, 1965				Northern Gulf of St. Lawrence, 1965			
	Precaudal vertebrae				Precaudal vertebrae			
	17	18	19	Total	17	18	19	Total
46	2	1	...	3	1	...	...	1
45	33	20	...	53	9	18	1	28
44	55	101	2	158	19	69	2	90
43	10	66	...	76	...	21	1	22
42	...	3	...	3	...	2	...	2
Total	100	191	2	293	29	110	4	143

$r = -0.339$ $t = 6.147$ $P < 0.001$

\bar{x} precaudal = 17.666. S.E. = 0.028

\bar{x} caudal = 43.922. S.E. = 0.042

$r = -0.245$ $t = 3.001$ $P < 0.005$

\bar{x} precaudal = 17.825. S.E. = 0.038

\bar{x} caudal = 44.028. S.E. = 0.055

Table 3. Vertebral numbers of Greenland halibut from the northwest Atlantic in relation to fish size.

Length range cm	Total (male, female, unsexed)							Mean vertebral numbers	Standard error
	59	60	61	62	63	64	Total		
A. 1950-53									
20-39	1	6	89	74	15	...	185	61.519	0.053
40-49	...	6	61	54	7	1	129	61.504	0.062
50-89	...	2	41	48	9	...	100	61.640	0.067
Total	1	14	191	176	31	1	414	61.543	0.035
B. 1959-63									
10-39	...	7	62	54	11	...	134	61.515	0.062
40-49	...	4	134	150	19	1	308	61.607	0.036
50-59	1	18	214	229	41	...	503	61.579	0.031
60-69	...	9	134	151	20	1	315	61.587	0.038
70-119	...	4	50	54	11	...	119	61.605	0.065
Total	1	42	594	638	102	2	1379	61.583	0.018

(cont'd.)

Table 3 (cont'd.)

Length range cm	Total (male, female, unsexed)							Total	Mean vertebral numbers	Standard error
	59	60	61	62	63	64				
	C. 1965-68									
10-39	...	4	64	66	10	...	144	61.569	0.055	
40-49	...	8	56	72	9	...	145	61.566	0.058	
50-59	...	5	74	79	14	...	172	61.593	0.052	
60-109	...	4	53	40	7	1	105	61.505	0.070	
Total	...	21	247	257	40	1	566	61.564	0.029	

A. Samples from Hawke Channel, Labrador to E slope Grand Bank, and the Newfoundland bays:

White Bay, Badger Bay, Notre Dame Bay, Trinity Bay and Fortune Bay.

B. Samples from Baffin Island shelf, N Labrador shelf and E slope Grand Bank.

C. Samples from W Greenland and E and SW slopes of Grand Bank.

Table 4. Numbers of dorsal fin rays in Greenland halibut from the northwest Atlantic.

(For positions, depths and temperatures, see Templeman, 1970, table 5.)

Locality	Year	Fin-ray frequencies																	Total fish	Fin-ray means	Standard error	
		90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106				107
1. West Greenland	1965	1	2	3	5	7	5	8	7	3	9	4	7	7	1	3	4	2	...	78	98.026	0.456
2. S slopes Grand Bank	1966	2	0	1	4	7	6	5	9	5	7	11	4	3	2	1	1	1	...	69	97.667	0.409
3. Flemish Cap	1968	...	1	1	1	1	3	4	4	3	1	0	0	0	1	1	0	0	1	22	97.000	0.798
4. S slopes Grand Bank	1968	1	1	0	0	0	0	2	1	1	1	0	1	0	0	1	...	...	...	9	96.889	1.476
2-4. Flemish Cap - S Grand Bank	1966-68	3	2	2	5	8	9	11	14	9	9	11	5	3	3	3	1	1	1	100	97.450	0.355

Table 5. Numbers of anal fin rays in Greenland halibut from the northwest Atlantic

(For positions, depths and temperatures, see Templeman, 1970, table 5.)

Locality	Year	Fin-ray frequencies																	Total fish	Fin- ray means	Standard error			
		62	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81				82	83	84
1. West Greenland	1965	1	1	2	0	3	8	13	6	10	12	9	6	6	2	0	1	..	..	..	..	80	72.888	0.337
2. Off Belle Isle, NE Nfld. shelf	1950	..	..	1	0	0	4	8	6	5	2	3	3	0	1	1	2	..	..	..	..	36	73.056	0.496
3. Badger Bay	1951	..	..	..	4	2	8	15	15	20	18	7	10	6	3	2	0	1	1	1	1	114	73.474	0.278
4. Trinity Bay	1953	..	..	3	2	4	8	11	14	23	14	9	8	7	5	3	..	..	..	..	..	111	73.207	0.258
5. S slopes Grand Bank	1966	..	1	1	0	3	5	11	11	11	8	9	8	3	4	1	2	..	..	..	..	78	73.372	0.321
6. E and SW slopes Grand Bank	1968	..	..	..	..	2	0	0	0	2	2	3	1	..	..	..	..	..	..	..	..	10	73.300	0.775
2-6. NE Nfld. shelf to S Grand Bank	1950-68	..	1	5	6	11	25	45	46	61	44	31	30	16	13	7	4	1	1	1	1	349	73.318	0.152
7. Flemish Cap	1968	..	..	..	2	2	4	4	2	2	3	1	0	1	0	1	..	..	..	..	..	22	71.864	0.600

Table 6. Correlation of dorsal fin-ray numbers and vertebral numbers from the same fish in Greenland halibut from the northwest Atlantic.^a

Vertebral no.	Dorsal fin-ray numbers																		Total
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	
63	1	0	0	1	1	2	0	1	2	1	2	1	0	0	1	...	...	...	13
62	...	...	3	4	4	3	3	9	1	9	3	4	3	2	4	4	2	1	59
61	1	3	2	3	8	5	12	7	7	6	5	5	5	1	0	1	1	...	72
60	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	...	...	...	6
Total	3	3	5	8	13	11	16	17	11	16	10	10	8	4	6	5	3	1	150

^aWest Greenland, southern Grand Bank and Flemish Cap (generally as in Table 4 apart from specimens with uncounted broken vertebral columns).

$r = +0.1075.$ $t = 1.315.$ $P = 0.20.$

Table 7. Correlation of anal fin-ray numbers and vertebral numbers from the same fish
in Greenland halibut from the northwest Atlantic.^a

Vertebral no.	Anal fin-ray numbers																			Total
	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	
64	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
63	1	1	0	3	2	2	1	4	2	5	6	2	0	1	...	...	...	...	...	30
62	...	3	1	6	12	26	17	24	20	7	18	11	7	5	2	0	1	1	...	161
61	...	2	4	7	20	25	21	31	27	20	11	7	4	1	3	1	0	0	1	185
60	...	...	...	...	1	3	1	0	1	2	0	1	1	...	...	...	...	...	...	10
Total	1	6	5	16	35	56	40	59	50	34	35	21	13	7	5	1	1	1	1	387

^aWest Greenland to southern Grand Bank including Flemish Cap (generally as in
Table 5 apart from specimens with uncounted broken vertebral columns).

$r = +0.0661.$ $t = 1.300.$ $P = 0.20.$

Table 8. Correlation of dorsal and anal fin-ray numbers from the same fish
in Greenland halibut from the northwest Atlantic.^a

Anal fin-ray numbers	Dorsal fin-ray numbers																		Total
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	
80	1	0	0	0	1	1	...	3
79	1	0	0	0	0	1	2
78	1	0	0	0	0	1	0	1	0	0	1	...	...	...	4
77	2	2	1	2	1	1	1	...	10
76	1	0	0	0	1	0	1	2	2	3	0	2	1	1	1	...	15
75	1	1	2	2	3	3	2	2	2	0	2	...	...	...	20
74	3	2	1	5	6	1	3	0	1	...	...	...	22
73	1	3	5	2	2	1	1	3	0	0	2	...	...	20
72	1	1	3	4	2	3	1	1	1	...	...	...	...	...	...	...	17
71	1	1	1	1	7	3	4	4	1	3	...	...	...	...	...	...	...	...	26
70	1	4	1	3	2	1	2	1	0	1	...	...	...	...	...	...	16

(cont'd.)

Table 8 (cont'd.)

Anal fin-ray numbers	Dorsal fin-ray numbers																		Total
	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	
69	1	1	1	3	2	1	0	1	...	...	...	...	...	...	...	...	...	...	10
68	...	1	0	0	0	1	...	...	...	...	...	...	...	...	...	...	...	...	2
67	1	0	0	0	0	0	1	1	...	...	...	...	...	...	...	...	...	...	3
66	1	0	0	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
65	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
64	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
63	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
62	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	4	4	5	10	15	14	18	19	11	18	14	12	10	4	6	5	3	1	173

^aAs in Table 4 apart from specimens with dorsal or anal fin rays injured.

$r = +0.706.$ $t = 13.036.$ $P < 0.001.$

Table 9. Numbers of rays in the pectoral fins of Greenland halibut from West Greenland 1965 (70°02'-63°28'N, 53°00'-60°57'W, 650-1460 m).

	Fin-ray numbers				Total fish	Fin-ray means	Standard error
	12	13	14	15			
Right pectoral							
M	2	7	9	1	19	13.474	0.177
F	2	17	24	1	44	13.545	0.095
Unsexed	...	...	1	...	1	14.000	...
Total	4	24	34	2	64	13.531	0.083
Left pectoral							
Total	...	8	7	...	15	13.467	0.133

Reference

Templeman, W. 1970. Vertebral and other meristic characteristics of Greenland halibut, *Reinhardtius hippoglossoides*, from the northwest Atlantic. J. Fish. Res. Bd. Canada 27: 1549-1562.

